

Serial No.: 10/521,433

Docket No.: 264595US0PCT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE APPLICATION OF:
KAZUYA GOTO ET AL.

GROUP: 1771

SERIAL NO: 10/521,433

EXAMINER: PIZIALI, A.

FILED: JANUARY 14, 2005

FOR: PREPREG, INTERMEDIATE
MATERIAL FOR FORMING
FRP, AND METHOD FOR
PRODUCTION THEREOF AND
METHOD FOR PRODUCTION
OF FIBER-REINFORCED
COMPOSITE MATERIAL

DECLARATION UNDER 37 C.F.R. § 1.132

COMMISSIONER FOR PATENTS
ALEXANDRIA, VIRGINIA 22313

Sir:

Now comes Kazuki Koga who deposes and states that:

1. I am a graduate of Kyushu University and received my master degree in the year 1999.
2. I have been employed by Mitsubishi Rayon Co., Ltd. for 8 years as a Researcher in the field of Carbon Fiber Reinforced Plastics.
3. The following experiments were carried out by me or under my direct supervision and control.

The following data indicates that the materials including the curing agent of the present invention have a lower minimum viscosity and keep a low viscosity for a longer period of time compared to a material which does not include the curing agent of the present invention.

4. Experiment

Measuring Condition

Measuring System: DSR200, Manufactured by Rheometrics Company

Serial No.: 10/521,433

Plate: $\phi 25$ mm Parallel-Plate

Gap: 0.5 mm

Stress: 3000 dynes/cm²

Heating Rate: 0.5°C/min

Composition Of Material

- Material Including Microcapsule (same as Example 9 of the present invention):

Epikote 1001: 70 parts by mass

Epiclon N740: 20 parts by mass

Novacure HX3722: 10 parts by mass

Omicure94: 5 parts by mass

- Material without Microcapsule (Xu et al.):

The components of this material are the same as Example 9 of the present invention, except for the curing agent. In this material, 1-(2-cyanoethyl)-2-ethyl-4-methylimidazol which is disclosed in Example 9 (Tables 1 to 4) of Xu et al. (U.S. 6,391,436) is used as the curing agent, and the amount of the curing agent is 2 phr, the same as Xu et al.

Epikote 1001: 70 parts by mass

Epiclon N740: 20 parts by mass

1-(2-cyanoethyl)-2-ethyl-4-methylimidazol: 2 phr

5. Result

The result of the measurements is shown in the attached Figure showing the Viscosity vs. the temperature. The Figure is incorporated into this Declaration by reference. The data indicates that the materials including the curing agent of the present invention (microcapsule) have a lower minimum viscosity and keep a low viscosity for a longer period of time compared to a material which does not include the curing agent of the present invention (no microcapsule).

Serial No.: 10/521,433

6. The undersigned petitioner declares further that all statements made herein of his own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of this application or any patent issuing thereon.

7. Further deponent saith not.

Customer Number

22850

Tel (703) 413-3000
Fax (703) 413-2220
(OSMMN 05/06)

Kazuki Koga
Signature

November 6, 2007
Date

